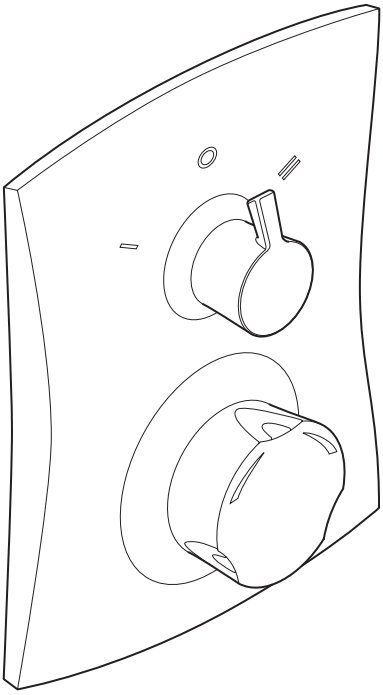
mira

Discovery



MIRA DISCOVERY AND DIVERTER

THERMOSTATIC MIXER SHOWER

Installation and User Guide

These instructions are to be left with the user

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If you experience any difficulty with the installation or operation of your new thermostatic mixer, please refer to **'Fault Diagnosis'**, before contacting Mira Showers. Our contact details can be found on the back cover of this guide.

INTRODUCTION

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly, having done so, keep it handy for future reference.

The Mira Discovery and Diverter Thermostatic Mixer is a Thermostatic Shower Control that is suitable for connection to concealed pipework. It has independent selection for temperature and an on/off flow control diverts between two seperate outlets.

The thermostatic mixer incorporates a wax capsule temperature sensing unit, which provides an almost immediate response to changes in pressures or temperature of the incoming water supplies to maintain the selected temperature. An adjustable maximum temperature stop is provided which limits the temperature to a safe level. Inlet filters are fitted to protect the thermostatic cartridge.

The Mira Discovery and Diverter has been certified as a Type 2 valve under the BUILDCERT TMV2 scheme. It also complies with the Water Supply (water fittings) Regulations 1999.

Guarantee

For **domestic installations**, Mira Showers guarantee the Mira Discovery and Diverter against any defect in materials or workmanship for a period of **three years** from the date of purchase.

For **non-domestic installations**, Mira Showers guarantee the Mira Discovery and Diverter against any defect in materials or workmanship for a period of **one year** from the date of purchase.

For terms and conditions refer to the back cover of this guide.

Recommended Usage

Application	
Domestic	✓
Light Commercial	✓
Heavy Commercial	×
Healthcare	×

Patents and Design Registration

Patents:

GB: 2 291 693, 2 422 886

Euro: 1 672 257 DE, FR, GB, IT, NL, SE

Germany: 60 2005 002 339.9

Patent Applications:

US: 2006-0124758-A1

Euro: 07015846.4

SAFETY WARNINGS

General

Mira thermostatic mixers are precision engineered and should give continued safe and controlled performance, provided:

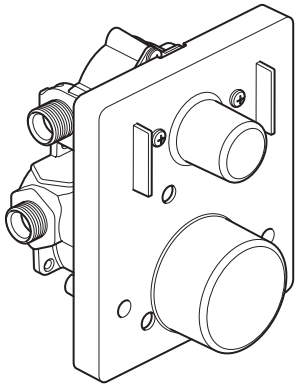
1. They are installed, commissioned, operated and maintained in accordance with the manufacturer's recommendations.
2. Type 2 Valves are only used for applications covered by their approved designations, refer to section: **'Type 2 Valves'**.
3. Periodic attention is given, when necessary, to maintain the product in good functional order.

Warning!

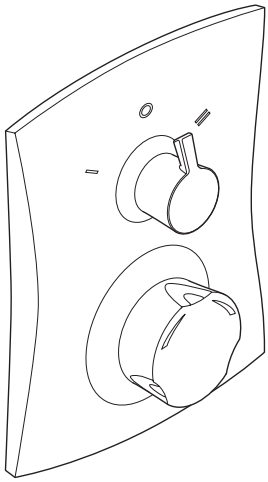
1. Read all of these instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. The function of a thermostatic mixing valve is to deliver water consistently at a safe temperature. In keeping with every other mechanism, it cannot be considered as functionally infallible and as such, cannot totally replace a supervisor's vigilance where that is necessary. Provided it is installed, commissioned, operated and maintained within manufacturers recommendations, the risk of failure, if not eliminated, is reduced to the minimum achievable.
6. If you experience any difficulty with the installation or operation of your new shower, then please refer to 'Fault Diagnosis', before contacting Mira Showers. Our contact details can be found on the back cover of this guide
7. DO NOT operate this appliance if it is frozen. Allow the appliance to thaw before using. The shower unit must not be fitted where it may be exposed to freezing conditions.
8. The water supplies to this product must be isolated if the product is not to be used for a long period of time. If the product or pipework is at risk of freezing during this period they should also be drained of water.
9. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
10. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety
11. If the shower is dismantled during installation or servicing then upon completion the product must be inspected to ensure there are no leaks
12. Rapid/Excessive movement of the flow and/or temperature control levers may result in momentary unstable blend temperatures.
13. Care is required when adjusting flow or temperature, make sure that the temperature has stabilised.
14. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

PACK CONTENTS

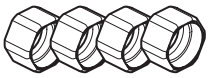
Tick the appropriate boxes to familiarise yourself with the part names and to confirm that all of the parts are included.



❑ 1 x Thermostatic Mixing Valve
(attached to the building in shroud)



❑ 1 x Concealing Plate and Control Assembly



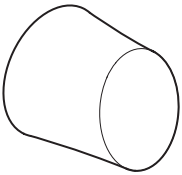
❑ 4 x Compression Nuts

❑ 4 x Olives

❑ 3 x Wall Plugs

❑ 3 x Fixing Screws

❑ 1 x 3 mm Hexagonal Key



❑ 1 x Right Angled Connector (RAC)

❑ 3 x M5 x 40 mm Screws

Documentation

❑ 1 x Guarantee Registration Document

❑ 2 x Flow Regulators

❑ 3 x Mounting Brackets

❑ 3 x M5 x 8 mm Screws

❑ 1 x Temperature Drive Extender

SPECIFICATIONS

For Type 2 Valves, the supply conditions specified in section: **'Type 2 Valves - Application'** take precedence over the operating parameters which follow.

Pressures

- Max Static Pressure: **10 Bar**.
- Max Maintained Pressure: **5 Bar**.
- Min Maintained Pressure (Gravity System): **0.1 Bar** (0.1 bar = 1 Metre head from cold tank base to showerhead outlet).

  Note! For gravity fed or other low pressure systems (0.5 bar or below) do not fit the outlet flow regulator.
- For optimum performance supplies should be nominally equal.

Temperatures

- Override Blend Temperature: **39°C**.
- Maximum Blend Temperature: **44°C**.
- Optimum Thermostatic Control Range: **35°C to 43°C** (achieved with supplies of 15°C cold, 65°C hot and nominally equal pressures).
- Recommended Hot Supply: **60°C to 65°C Note!** The mixing valve can operate at higher temperatures for short periods without damage, however this could detrimentally affect thermostatic performance. For safety and performance reasons it is recommended that the maximum hot water temperature is limited to 65°C.
- Cold Water Range: up to **25°C**.
- Minimum Recommended Differential between Hot Supply and Outlet Temperature: **12°C**.

Thermostatic Shut-down

- For safety and comfort the thermostat will shut off the mixing valve **within 2 Seconds** if either supply fails (achieved only if the blend temperature has a minimum differential of 12°C from either supply temperature).

Connections

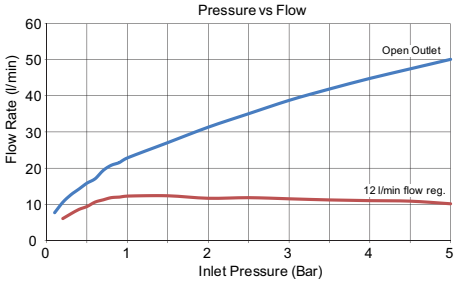
- Inlets: 15 mm Compression.
- Outlets: 15 mm Compression
- Standard connections are: **hot - left, cold - right, outlets - top left and top right**.

Flow Rates

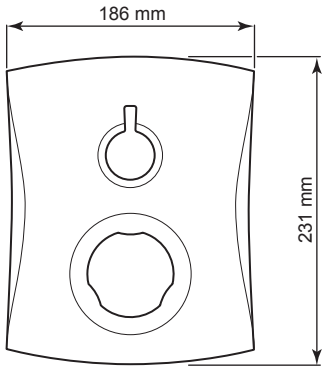
Typical flow rates on high pressure systems (1 to 5 Bar), mixer valve and divertor only with open outlet and 12 L/Min flow regulator fitted.

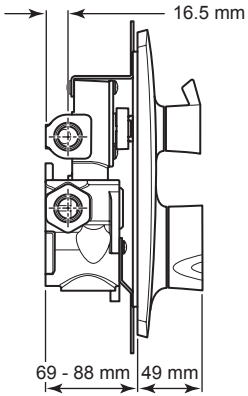
Note! Additional pressure losses may occur depending on your outlet configuration and fittings used.

Typical flow rates on low pressure systems (0.1 to 1 Bar) mixer valve and divertor only with open outlet.



Dimensions

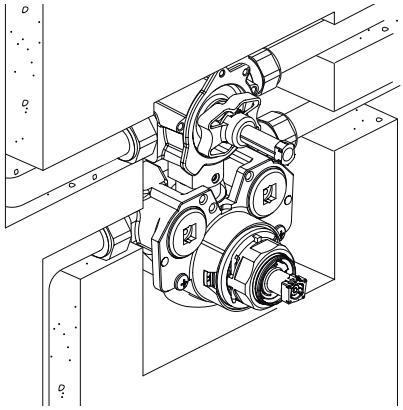




INSTALLATION METHODS

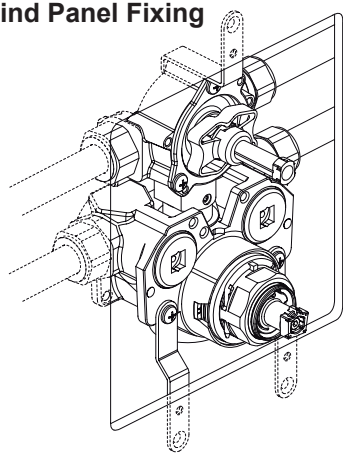
Rear Fixing

For installation into a Solid Wall or Stud Partition using the Rear Fixing Points, go to section: **'Installation, Solid Wall or Stud Partition Using Rear Mountings'**.



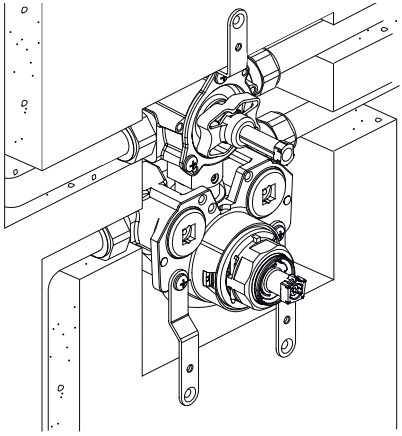
Behind Panel Fixing

For installation behind a Laminated Panel using the Securing Brackets, go to section: **'Installation, Panel Fixing using Securing Brackets - Mounting off Rear Face'**.



Front Face Fixing

For installation securing on the front face into a Solid Wall or Stud Partition using the Securing Brackets, go to section: **'Installation, Solid Wall or Stud Partition Fixing using Securing Brackets'.**



INSTALLATION

Suitable Plumbing Systems

Gravity Fed:

The thermostatic mixer must be fed from a cold water cistern (usually fitted in the loft space) and a hot water cylinder (usually fitted in the airing cupboard) providing nominally equal pressures.

Mains Pressurised Instantaneous Hot Water System (Combination Boiler):

The thermostatic mixer can be installed with systems of this type with balanced pressures. (Recommended Minimum Maintained Pressure: **1.0 Bar**).

Unvented Mains Pressure System:

The thermostatic mixer can be installed with an unvented, stored hot water system.

Pumped System:

The thermostatic mixer can be installed with an inlet pump (twin impeller). The pump must be installed in a suitable location and in accordance with its instructions.

General

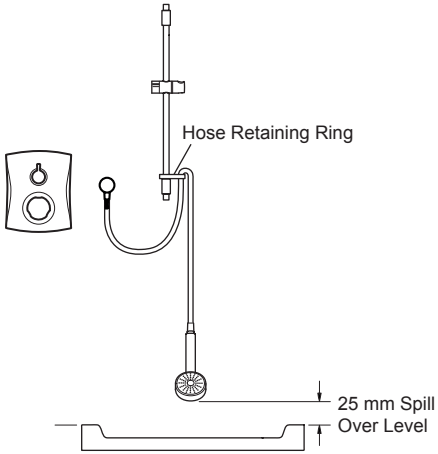
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The plumbing installation must comply with the requirements of UK Water Regulations/Bye-laws (Scotland), Building or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: **'Specifications'**. For Type 2 Valves see also supply conditions in section: **'Type 2 Valves'**.

1. The Mixer must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings may be required.
3. Isolating valves **must** be installed close to the Mixer for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Do not install the product in a position in which service access is restricted.
6. Pipework dead-legs should be kept to a minimum.
7. Decide on a suitable position for the Mixer and outlet fittings. If you are installing variable shower fitttings then they must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the showerhead (refer to illustration). This is to prevent back-siphonage.

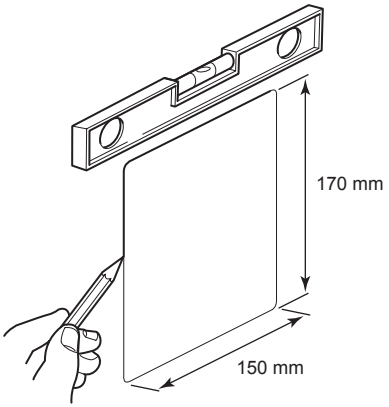
   Note! Only use Shower Fittings recommended by the manufacturer or supplier.
8. All pipework must be checked for leaks before the product installation is completed. The product should be pressurised and the inlet and outlet connections inspected.



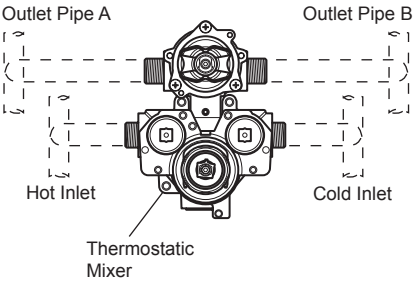
Solid Wall or Stud Partition Fixing Using Rear Mountings

1. Determine the route for the hot and cold supply pipework and for the outlet pipework. If you are connecting to BIV Shower Fittings it is recommended that the outlet be positioned above and to one side of the mixer. This is to prevent the flexible hose from obstructing the shower controls.
2. Determine the position of the mixer and mark a maximum hole size of 150 mm x 170 mm.

   Note! Use a spirit level to make sure that the hole will be horizontal and vertical.



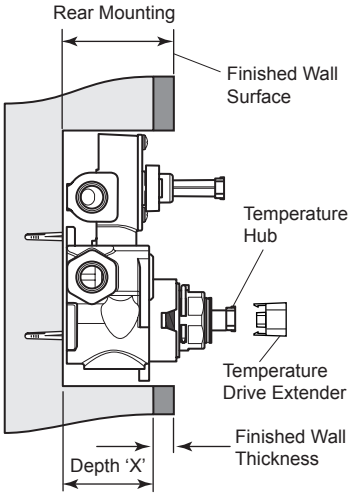
3. Mark the routes for the hot and cold supply pipework.
4. Mark the routes for the outlet pipework.



5. Cut away the plasterboard or brick work to the required depth.

   Important! This depth 'X' will depend on the finished wall thickness e.g. tiles or facia board. Refer to the table for this measurement.

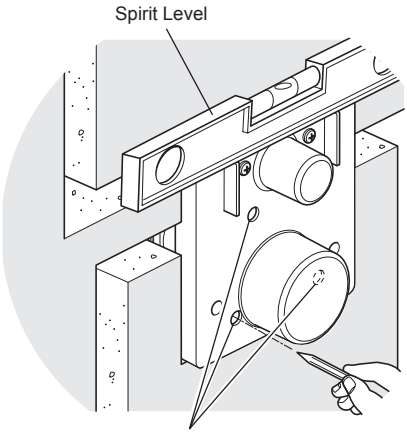
   For stud partitions depth 'X' refers to the distance from the rear mounting e.g. wooden baton, to the front of the wall (before tiling).



Note! Column 3 in the table below refers to a red temperature drive extender that will need to be fitted onto the temperature hub if depth 'X' exceeds the value shown.

Finished Wall Thickness (e.g. tile and adhesive)	Wall Cutout Depth 'X'	Red Extender required if Depth 'X' exceeds:
6	64 - 82 mm	74 mm
8	62 - 80 mm	72 mm
10	60 - 78 mm	70 mm
12	58 - 76 mm	68 mm
14	56 - 74 mm	66 mm
16	54 - 72 mm	64 mm
18	54 - 70 mm	62 mm
20	54 - 68 mm	60 mm
22	54 - 66 mm	58 mm
24	54 - 64 mm	56 mm

6. Offer up the mixer valve into the hole, make sure that it is level, central, and square to the finished wall surface (or the control components will not fit correctly), then mark the positions of the fixing screw holes through the building-in shroud and onto the wall.



7. For solid walls and stud partitions drill three 6 mm holes for the wall plugs.

Note! For stud partition installations alternative fixings may be required (not supplied) to fix the mixer to the rear face of the wall cavity or to a timber noggin.

8. Install the hot and cold supply pipes into the wall (**Hot - Left, Cold - Right**).

9. **Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer.** Failure to do so may result in product malfunction and will not be covered under the guarantee.

10. Remove the three shroud screws (retain for later use) and remove the building-in shroud from the mixer.

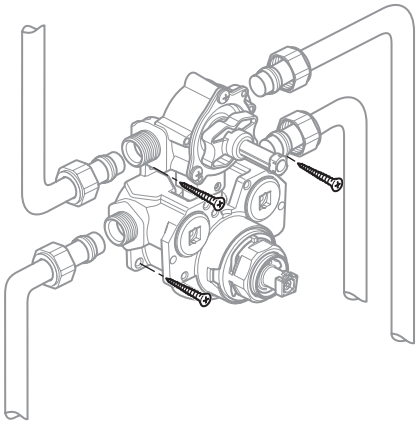
11. Insert the wall plugs (supplied) and attach the mixer to the wall with the screws provided.

12. Make sure that the olives are fitted and connect the hot and cold supply pipes to the mixer and tighten the compression nuts.

13. Fit the outlet pipes from the mixer and tighten the compression nuts.

Note! Leave enough pipe through the wall to temporarily cap off.

Important! There are various shower fittings, spouts, bath fillers etc. that can be used with this product, refer to the appropriate installation instructions supplied with your outlet fittings and install the outlet pipework to suit.



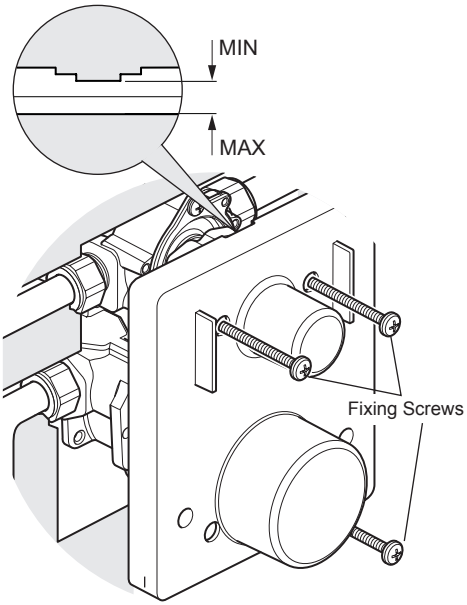
14. Turn on the water supplies and check for leaks.

Note! Cap off the outlet pipes and operate the divertor to check the outlet connections.

15. Re-fit the building-in shroud to the shower valve using the three fixing screws.

16. Using the building-in shroud as a guide for the finished wall thickness, finish the wall.

Caution! Make sure that the finished wall is within the minimum and maximum limits otherwise the control components will not fit correctly.



17. Remove the building-in shroud. Retain the three securing screws for securing the backplate.

18. Install the outlet fittings, refer to your fittings installation and user guide for instructions.

19. Fit the control assembly, refer to section: **'Control Assembly'**.

Panel Fixing using Securing Brackets - Mounting off Rear Face

Note! For laminated panels the mixer must be positioned from the rear of the panel.

Panel thickness must be between 4 and 22 mm (if a thicker panel is used, it will be necessary to recess the securing brackets into the rear of the panel).

Important! Make sure that there is a minimum clearance of 66 mm behind the laminated panel to house the mixer.

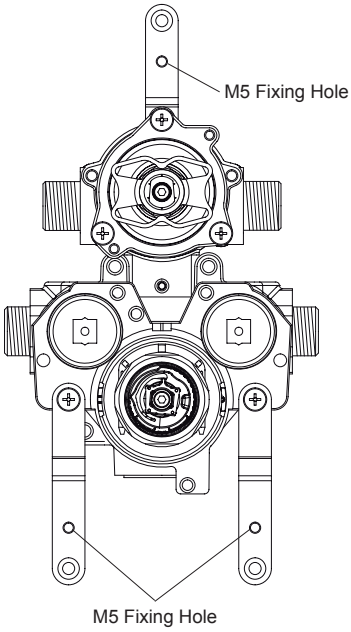
1. Refer to section: **'Solid Wall or Stud Partition Fixing using Rear Mountings'** and follow instructions 1 to 4.

2. Carefully cut out the laminated panel.

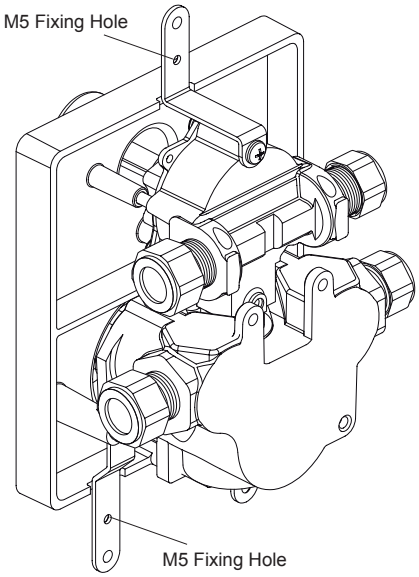
3. Remove the screws and remove the building-in shroud (retain the screws for later use).

4. Fit the securing brackets to the mixer.

Important! The securing brackets must be fixed vertically, as illustrated.

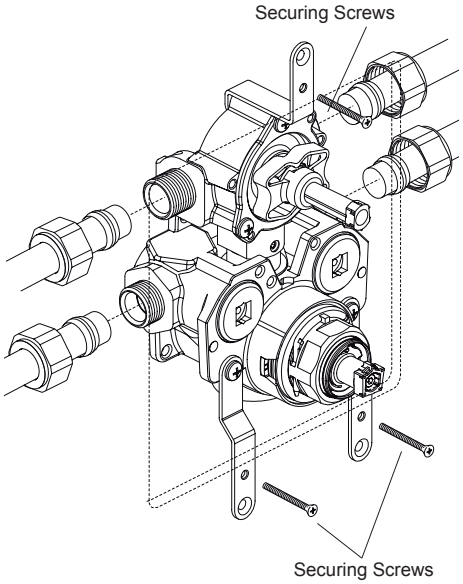


5. Re-fit the building-in shroud to the shower valve using the three fixing screws.



6. To assist in marking the positions of the fixing holes, reverse the shower valve and fit the building in shroud through the cutout in the front of the panel. Mark the positions of the M5 fixing holes.

Important! Make sure that the correct holes are used (refer to illustration).



7. Drill the three 5 mm fixing holes (countersink the holes at the front).

8. Install the hot and cold supply pipes (**Hot - Left, Cold - Right**).

9. Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer. Failure to do so may result in product malfunction and may invalidate your guarantee.

10. Remove the screws and remove the building-in shroud (retain the screws for later use).

11. Secure the shower valve (positioned from the rear of the panel) with the M5 x 40 mm fixing screws.

12. Make sure that the olives are fitted and connect the hot and cold supply pipes to the mixer and tighten the compression nuts.

13. Fit the outlet pipes from the mixer and tighten the compression nuts.

Note! Leave enough pipe through the wall to temporarily cap off.

Important! There are various shower fittings, spouts, bath fillers etc. that can be used with this product, refer to the appropriate installation instructions supplied with your outlet fittings and install the outlet pipework to suit.

14. Turn on the water supplies and check for leaks.

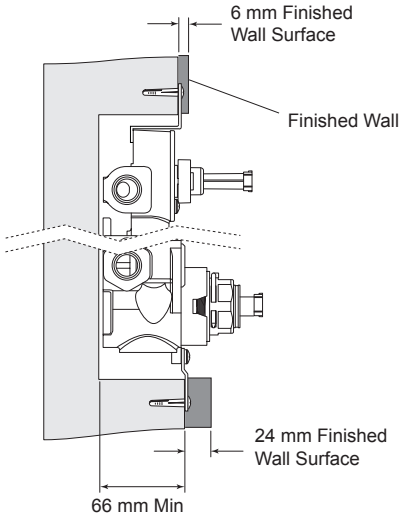
Note! Cap off the outlet pipes and operate the divertor to check the outlet connections.

15. Install the outlet fittings, refer to your fittings installation and user guide for instructions.

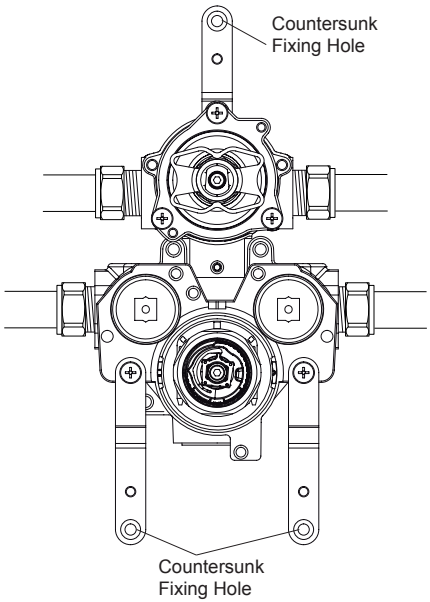
16. Fit the control assembly, refer to section: **'Control Assembly'**.

Solid Wall or Stud Partition Fixing using Securing Brackets

1. Refer to section: **'Solid Wall or Stud Partition Fixing using Rear Mountings'** and follow instructions 1 to 4.



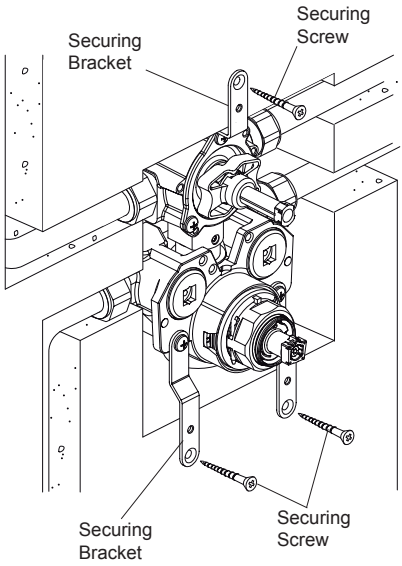
2. Cut away the plasterboard or brick work to a minimum depth of 66 mm to accomodate the shower valve body, the hot and cold supply pipework and the outlet pipework.
3. Make sure that the building-in shroud fits inside the hole cutout.



4. Remove the building-in shroud
5. Fit the securing brackets to the mixer.

   Important! The securing brackets must be fixed vertically, as illustrated.

   Important! Make sure that the correct holes are used, otherwise the backplate cannot be fitted.



6. Mark the positions of the countersunk fixing holes on the wall.

   Note! Make sure that they do not interfere with the pipework.
7. Drill three 6 mm holes for the wall plugs.
8. Fit the wall plugs (supplied) and secure the shower valve to the wall with the securing screws (supplied).

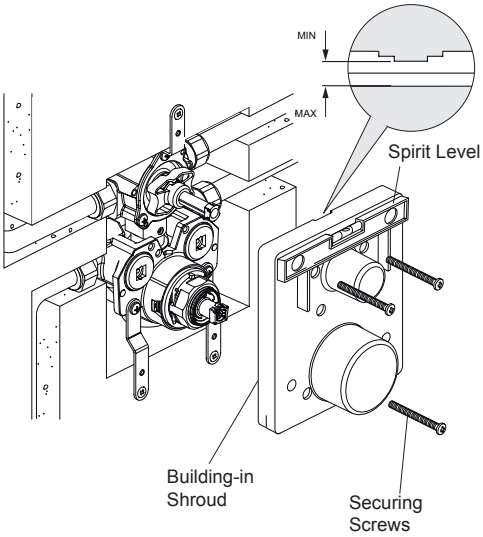
   Note! For stud partition installations alternative fixings may be required (not supplied).

   Important! At this point position the building-in shroud onto the shower valve and make sure that it is horizontal and will be parallel to the finished wall surface.
9. Remove the building-in shroud and fit the hot and cold supply pipes and outlet pipe and tighten the compression nuts.

   Caution! Make sure that the olives are fitted and all pipework is flushed through before connecting to the shower valve.
10. Fit the outlet pipes from the mixer and tighten the compression nuts.

    Note! Leave enough pipe through the wall to temporarily cap off.

Important! There are various shower fittings, spouts, bath fillers etc. that can be used with this product, refer to the appropriate installation instructions supplied with your outlet fittings and install the outlet pipework to suit.



11. Turn on the water supplies and check for leaks.

Note! Cap off the outlet pipes and operate the divertor to check the outlet connections.

12. Re-fit the building-in shroud to the shower valve using the three fixing screws.

13. Using the building-in shroud as a guide for the finished wall thickness, finish the wall.

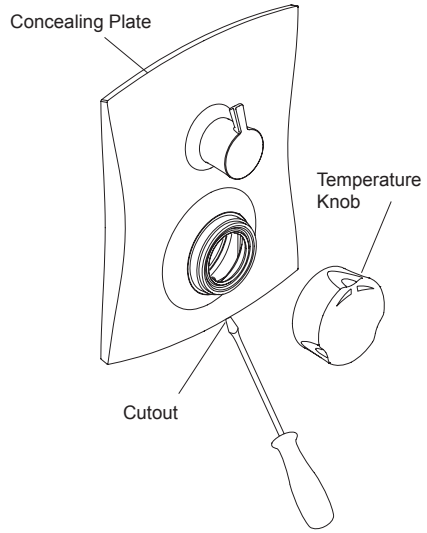
Caution! Make sure that the finished wall is within the minimum and maximum limits otherwise the control components will not fit correctly.

14. Remove the building-in shroud. Retain the three securing screws for securing the backplate.

15. Install the outlet fittings, refer to your fittings installation and user guide for instructions.

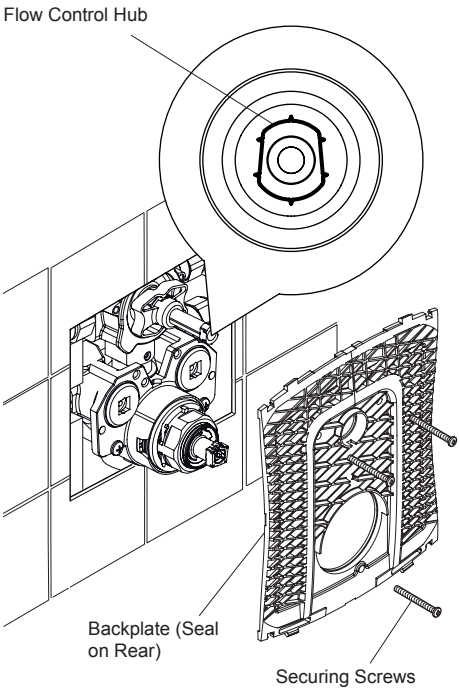
16. Fit the control assembly, refer to section: **'Control Assembly'**.

Control Assembly



1. Pull off the temperature knob.
2. Carefully separate the concealing plate from the backplate.

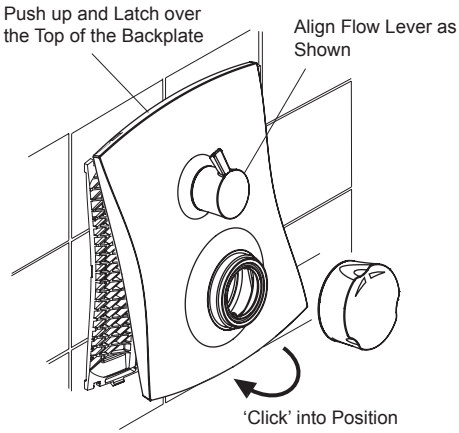
   Note! Use a screwdriver in the cutout to assist separation.



3. Fit the backplate to the shower control and secure with the three securing screws (removed from the building-in shroud). Make sure that the seal is fully compressed on the finished wall surface.

   Note! If the finish is particularly uneven (i.e. due to grout lines), apply a small amount of silicone sealant to ensure a seal.

   Caution! Do not overtighten the screws as this may cause the backplate to distort, preventing the fitting of the control knobs.
4. Align the flow control hub with the taper towards the top of the shower control (refer to illustration).



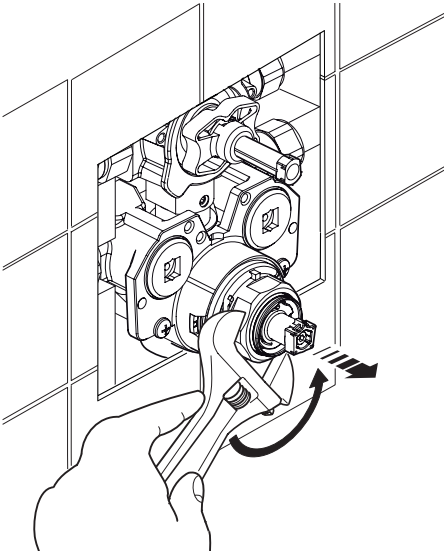
5. Align the flow control lever so that the lever is pointing up (refer to illustration).
6. Slide the flow control lever and concealing plate over the flow control hub.
7. Latch the top of the concealing plate over the top of the backplate.

   Note! You will need to push the concealing plate up and over the lip on top of the backplate and apply firm pressure to the flow lever (refer to illustration).
8. Clip the bottom of the concealing plate into position.
9. Align the temperature control knob with the hub and push the knob onto the concealing plate so it clicks into place.

   Note! The Thermostatic Shower Control is preset to approximately 44°C at the factory and the override is set to approximately 39°C. If adjustment is required, refer to section: **'Commissioning'.**

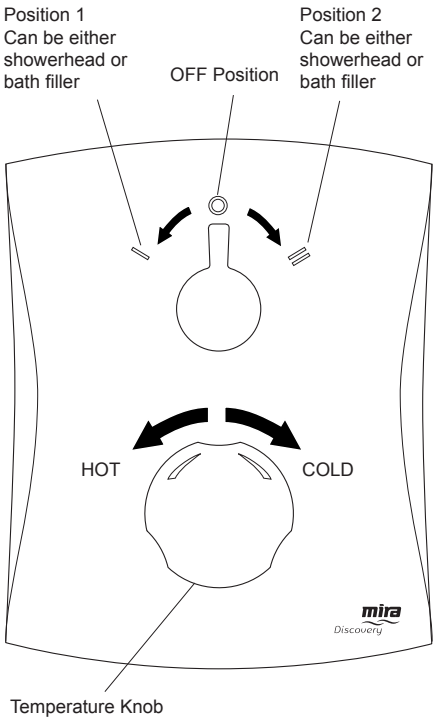
REVERSED INLET SUPPLIES

The Mira Discovery with Diverter thermostatic mixer is supplied with inlet connections **Hot - Left, Cold - Right** as standard. If the hot and cold water supply pipes have been reversed during installation the thermostatic cartridge must be removed and rotated 180°.

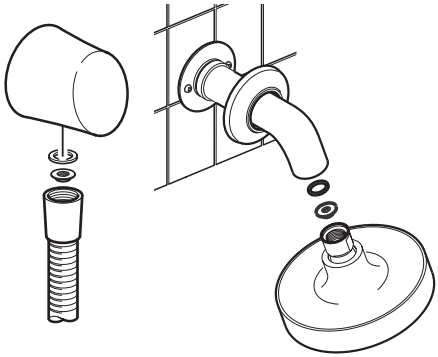


1. Isolate the hot and cold water supplies and operate the control lever to relieve pressure and drain any residual water.
2. Pull off the temperature knob.
3. Unclip and remove the concealing plate.
   Note! Use a screwdriver in the slot at the bottom of the concealing plate to lever off.
4. Using a suitable spanner, turn the cartridge nut and turn anticlockwise. Unscrew and pull the cartridge clear from the body.
5. Rotate the cartridge 180°.
6. Make sure that the two cartridge side seals are fitted and carefully push into the cartridge body.
   Important! Make sure that the cartridge side seals do not extrude from the body when pushing the cartridge in. Damage to these seals may result in incorrect operation.
7. Position the cartridge lugs into the body slots and tighten clockwise.
8. Restore the hot and cold water supplies and check for leaks.
9. Refer to section: **'Installation, Control Assembly'** and follow instructions 3 to 9.

OPERATION



Flow Regulation



The diverter outlet of the shower operates either fully on or off. If the shower is too forceful or flow rate too high then 2 x 12 l/min flow regulators are provided. These can be installed in the Discovery fixed showerhead and/or in the hose between the wall connector (RAC)

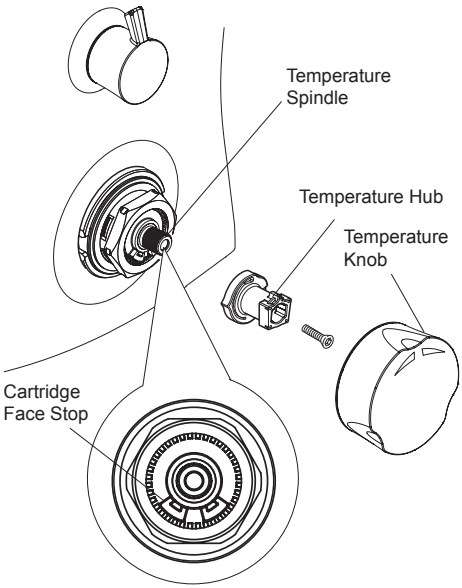
COMMISSIONING

Maximum Temperature Setting

Before using the shower the maximum temperature must be checked to make sure that it is at a safe level. It has been preset to approximately 44°C at the factory but due to variations in site conditions the maximum temperature may need adjustment.

Note! Make sure that the hot water temperature is at least 55°C and that there is sufficient supply.

For Type 2 installations the maximum blend temperature is determined by the application, refer to section: **'Type 2 Valves - Application'**.

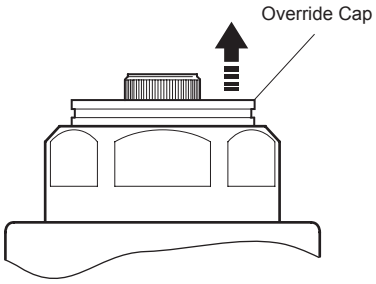


1. Pull-off the temperature knob.
2. Unscrew the temperature hub with a 3 mm hexagon key (supplied).
4. Operate the flow control lever.
5. Rotate the spindle until required maximum blend temperature is obtained at discharge point **(clockwise = decrease temperature)**.

   Caution! When resistance is felt do not use force to turn any further, as this can damage the internal parts.
6. Once the desired maximum blend temperature has been achieved, refit the temperature hub without disturbing the spindle, positioning the temperature hub so that the lug is against the left side of the stop on the cartridge face (refer to illustration). Make sure that the temperature has not altered.

Override Stop Setting

The override stop is designed to give the user an indication of the maximum showering temperature (39°C). This is preset at the factory but due to variations in site conditions the maximum temperature may need adjustment.



1. Lift the override cap and rotate to adjust the temperature (clockwise decreases the temperature).

TYPE 2 VALVES

Application

The approved designations for Type 2 Valves are as follows:

Models	Designation
Mira Discovery with Divertor	HP-S, LP-S, HP-B

Important! The fitting of any flow regulator will invalidate TMV2 compliance due to the minimum flow rate requirements. Do not fit flow regulators in TMV2 applications.

Conditions of use for Type 2 Valves

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	0.5 to 5	0.1 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤25	≤25

Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

Recommended Outlet Temperatures

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

44°C for bath fill, but see notes below;

41°C for showers.

The mixed water temperatures must never exceed 46°C.

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

Note! 46°C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherant in thermostatic mixing valves and temperature losses in metal baths.

It is not a safe bathing temperature for adults or children.

The British Burns Association recommends 37 to 37.5°C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum mixed water outlet temperature is 43°C.

The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

The fitting of isolation valves is required as close as practicable to the water supply inlets of the thermostatic mixing valve.

Commissioning notes for Thermostatic Mixing Valves

The first step in commissioning a thermostatic mixing valve is to check the following:

The designation of the thermostatic mixing valve matches the application.

The supply pressures are within the valves operating range.

The supply temperatures are within the valves operating valve.

Isolating valves (and strainers preferred) are provided.

If all of these conditions are met, proceed to set the temperature as specified in section: **'Commissioning'**.

Important! The mixed water temperature at the discharge point must never exceed 46°C.

It is a requirement that all TMV2 approved valves shall be verified against the original set temperature results once a year. When commissioning/testing is due the following performance checks shall be carried out.

Measure the mixed water temperature at the outlet.

Carry out the cold water supply isolation test by isolating the cold water to the TMV, wait for five seconds if water is still flowing check that the temperature is below 46°C.

If there is no significant change to the set outlet temperature (±2°C or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

Notes! If there is a residual flow during the commissioning of the valve or the annual verification (cold water supply isolation test), then

this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise.

The sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the instructions given in this guide.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

FAULT DIAGNOSIS

If you require a Mira trained service engineer or agent, refer to section: **'Customer Services'**.

Fault Diagnosis

Symptom:

- *Only hot or cold water from the mixer outlet.*
- *Outlet temperature too hot / too cold.*

Cause / Rectification:

- *Inlets reversed (hot supply to cold supply).*
- *No hot water reaching mixer.*
- *Check the filters for any blockage.*
- *Installation conditions outside operating parameters, refer to sections: **'Specifications'** and **'Commissioning'**.*

Symptom:

- *Fluctuating or reduced flow rate.*

Cause / Rectification:

- *Check the showerhead, hose and filters for any blockage and clean.*
- *Make sure that the maintained inlet pressures are nominally balanced and sufficient, refer to section: **'Specifications'**.*
- *Make sure that the inlet temperature differentials are sufficient, refer to section: **'Specifications'**.*
- *Flow regulator fitted incorrectly.*
- *Air lock or partial blockage in the pipework.*

Symptom:

- *Water leaking from showerhead outlet.*

Cause / Rectification:

- *Normal for a short period after shut off.*
- *Check that the pressures are not in excess of the specifications for the product.*
- *Renew the thermostatic cartridge.*

Symptom:

- *Shower too forceful water flow rate too high.*

Cause / Rectification:

- *Flow regulator not fitted. See Operation*

MAINTENANCE

General

This Product is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

The Mira Discovery with Divertor thermostatic mixer is designed to need only minimal maintenance in normal use. The only serviceable parts are the inlet filters which should be checked and cleaned every 12 months. If a malfunction occurs with the thermostatic cartridge then this will necessitate a complete cartridge replacement.

Note! The cartridge contains no internally serviceable parts.

If you require a Mira trained engineer or agent, refer to section: **'Customer Service'**.

Lubricants

Silicone based lubricants must only be used on the rubber seals.

Caution! Oil based or other lubricant types may cause rapid deterioration of seals.

Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

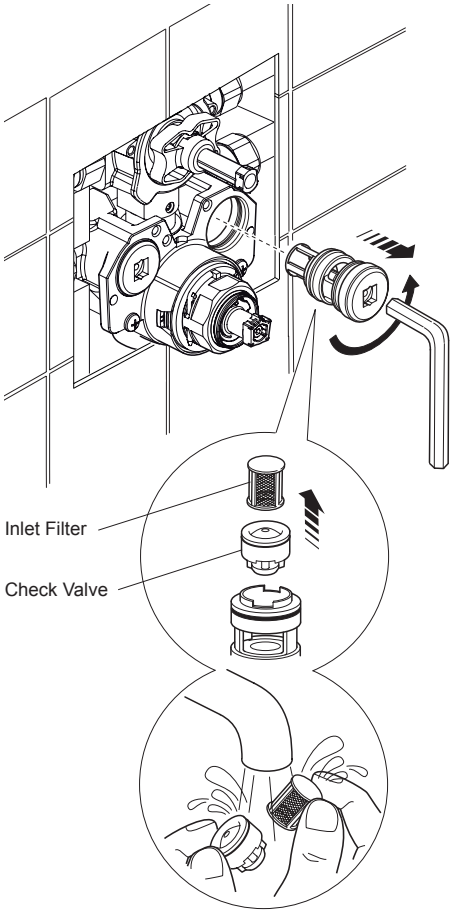
Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings.

Do not use descalents on this product.

Inlet Filters and Check Valves

The inlet filters and check valves should be checked and cleaned as necessary every 12 months.

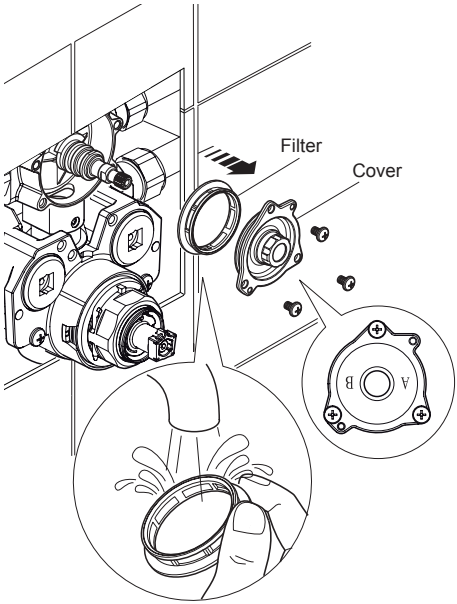
Note! The inlet filters and check valves must not be removed except for cleaning. If the thermostatic mixer is operated without the inlet filters or check valves fitted the warranty on the product will be void.



1. Isolate the supplies to the shower control and operate the flow control to drain any residual water.
2. Unclip and remove the concealing plate.
3. Unscrew the 3 backplate securing screws and remove the backplate.
4. Unscrew the filter caps with a 10 mm hexagonal wrench.
5. Remove the inlet filters and check valves.
6. Clean each inlet filter and check valve in turn under a jet of water to remove any lodged particles.
7. Re-fit the check valves and inlet filters and tighten the filter caps.
8. Restore the water supplies and check for leaks.
9. Reassemble the shower control (refer to section **'Installation, Control Assembly'**.

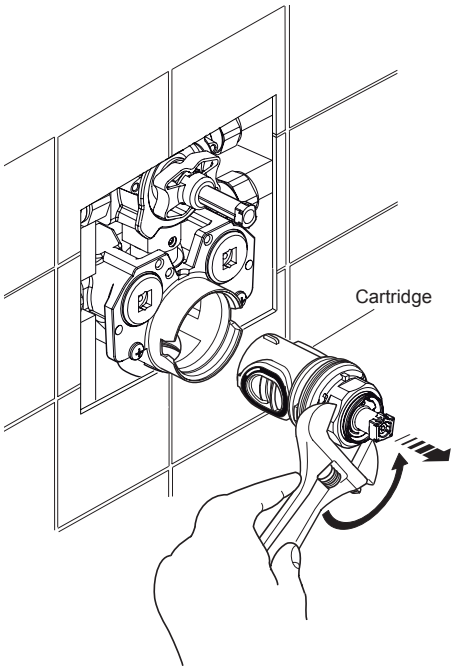
Divertor Filter

Note! The filters must not be removed except for cleaning. If the thermostatic mixer is operated without the inlet filters or check valves fitted the warranty on the product will be void.



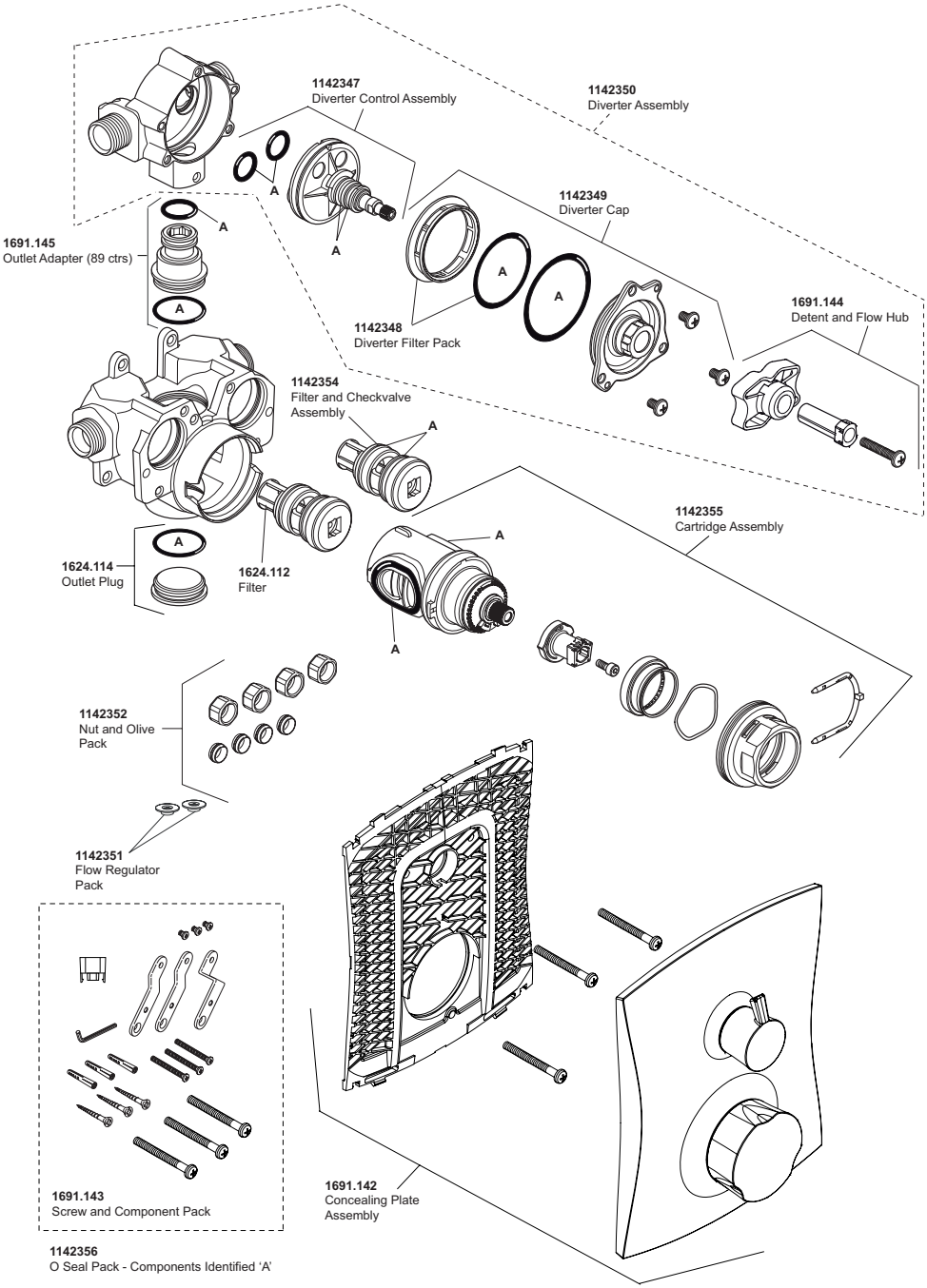
1. Isolate the supplies to the shower control and operate the flow control to drain any residual water.
2. Unclip and remove the concealing plate.
3. Unscrew the 3 backplate securing screws and remove the backplate.
4. Remove the three screws that hold the cover in place.
5. Remove the cover and remove the filter.
6. Clean the filter under a jet of water to remove any lodged particles.
7. Re-fit the filter.
8. Re-fit the cover making sure that the orientation is correct.
9. Restore the water supplies and check for leaks.
10. Reassemble the shower control (refer to section **'Installation, Control Assembly'**.

Cartridge

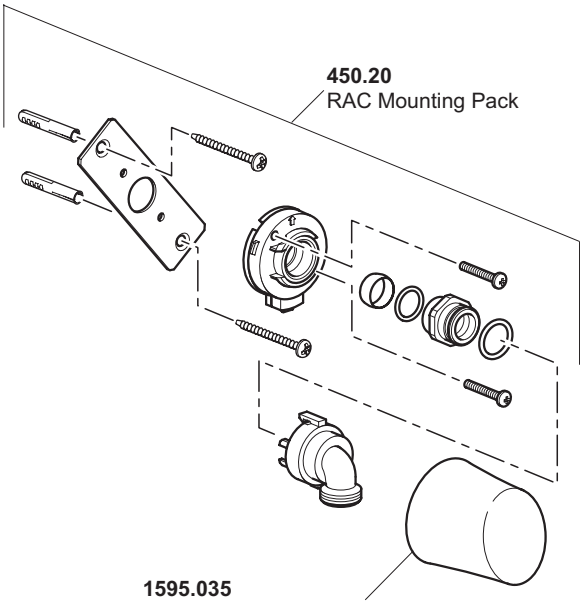


1. Isolate the hot and cold water supplies and operate the control lever to relieve pressure and drain any residual water.
2. Pull off the temperature knob.
3. Unclip and remove the concealing plate.
   Note! Use a screwdriver in the slot at the bottom of the concealing plate to lever off.
4. Using a suitable spanner, turn the cartridge nut and turn anticlockwise. Unscrew and pull the cartridge clear from the body.
5. Discard the cartridge.
6. Make sure that the two cartridge side seals are fitted to the new cartridge and carefully push into the cartridge body.
   Important! Make sure that the cartridge side seals do not extrude from the body when pushing the cartridge in. Damage to these seals may result in incorrect operation.
7. Position the cartridge lugs into the body slots and tighten clockwise.
8. Restore the hot and cold water supplies and check for leaks.
9. Refer to section: **'Installation, Control Assembly'** and follow instructions 3 to 9.

SPARE PARTS


1142347
Diverter Control Assembly
1142350
Diverter Assembly
1142349
Diverter Cap
1691.145
Outlet Adapter (89 ctrs)
1142348
Diverter Filter Pack
1691.144
Detent and Flow Hub
1142354
Filter and Checkvalve
Assembly
1142355
Cartridge Assembly
1624.114
Outlet Plug
1624.112
Filter
1142352
Nut and Olive
Pack
1142351
Flow Regulator
Pack
1691.143
Screw and Component Pack
1691.142
Concealing Plate
Assembly
1142356
O Seal Pack - Components Identified 'A'

SPARE PARTS

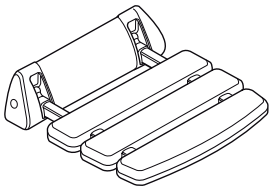


450.20
RAC Mounting Pack

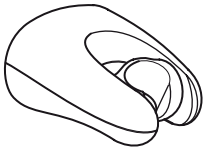
1595.035
Right Angle Connector (RAC) Shroud

ACCESSORIES

Genuine Mira accessories can be purchased direct from Customers Services (our contact details can be found on the back cover of this guide) or from approved stockists or merchants.

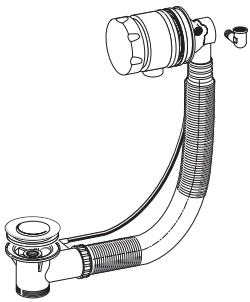


Shower Seat
White - 2.1536.128
White/Chrome - 2.1536.129
For use in or out of the showering area. **Note!** Must be installed onto a solid wall.
Shower seat folds up when not in use

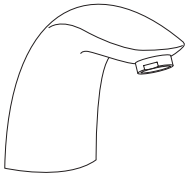


Showerhead Holder
White - 2.1605.149
Chrome - 2.1605.150
If you're looking for additional flexibility in your shower, the Mira Logic Showerhead Holder is the perfect solution. Makes showering easier for children, provides a useful additional holder for your Showerhead which fixes to the wall at the desired height.

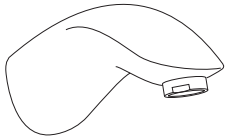
Wall Mounted Soap Dish
White - 1.1540.278
Chrome - 1.1540.279
Wall mounted for use anywhere in, or outside the showering area.



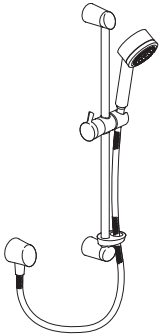
Overflow Filler
Chrome - 2.1605.140
A discreet bath filler concealed within the bath overflow for use with concealed pipework.



Deck Mounted Bath Filler
Chrome - 2.1605.146
A Deck mounted bath fill spout for use with concealed pipework.



Wall Mounted Bath Filler
Chrome - 2.1605.147
A Wall mounted bath fill spout for use with concealed pipework.



Discovery Variable Fittings Kit
Chrome - 1.1595.029
Stylish shower fittings including a four mode shower handset, hose and slide bar for variable height positioning.

Discovery Single Spray Fixed Showerhead
Chrome - 1.1595.029
Stylish single spray fixed overhead shower fitting with adjustable spray direction.

CUSTOMER SERVICES

Guarantee

Your product has the benefit of our manufacturer's guarantee which starts from the date of purchase.

To activate this guarantee, please return your completed registration card, visit our website or free phone 0800 0731248 within 30 days of purchase (UK only).

Within the guarantee period we will resolve defects in materials or workmanship, free of charge, by repairing or replacing parts or product as we may choose.

This guarantee is in addition to your statutory rights and is subject to the following conditions:

- The product must be installed and maintained in accordance with the instructions given in this user guide.
- Servicing must only be undertaken by us or our appointed representative. **Note!** if a service visit is required the product must be fully installed and connected to services.
- Repair under this guarantee does not extend the original expiry date. The guarantee on any replacement parts or product ends at the original expiry date.
- For shower fittings or consumable items we reserve the right to supply replacement parts only.

The guarantee does not cover:

- Call out charges for non product faults (such as damage or performance issues arising from incorrect installation, improper use, lack of maintenance, build up of limescale, frost damage, corrosion, system debris or blocked filters) or where no fault has been found with the product.
- Water or electrical supply, waste and isolation issues.
- Compensation for loss of use of the product or consequential loss of any kind.
- Damage or defects caused if the product is repaired or modified by persons not authorised by us or our appointed representative.
- Routine maintenance or replacement parts to comply with the requirements of the TMV 2 or TMV 3 healthcare schemes.

What to do if something goes wrong

If your product does not function correctly when you first use it, contact your installer to check that it is installed and commissioned in accordance with the instructions in this manual.

Should this not resolve the issue, contact our Customer Services Team who will offer you or your installer advice and if applicable arrange for a Service Technician to call.

If the performance of your product declines, check in this manual to see if simple home maintenance is required. If you require further assistance call our Customer Services Team.

Extended Guarantees

A selection of protection plans are available that enable you to cover repair bills for the life of your policy (excludes Eire). Ring 01922 471763 for more details.

Helpdesk Service

Our dedicated Customer Services Team is comprehensively trained and can offer help and advice, spare parts, accessories or a service visit. We will need you to have your model name or number, power rating (if applicable) and date of purchase. As part of our quality and training programme calls may be recorded or monitored.

Mira Showers Website (www.mirashowers.co.uk)

From our website you can register your guarantee, download additional user guides, diagnose faults, purchase our full range of accessories and popular spares, refer to our FAQ's and request a service visit.

Spares and Accessories

We maintain extensive stocks of genuine spares and accessories and aim to provide support throughout the product's expected life. Payment can be made by phone at time of order using most major Credit or Debit cards and we aim to despatch orders within two working days. Items purchased from us are guaranteed for 12 months from date of purchase. For safety reasons spares exposed to mains voltages should only be fitted by competent persons.

Returns – items can be returned within one month of date of purchase, providing that they are in good condition and the packaging is unopened. Please obtain authorisation from our Customer Services Team before return. We reserve the right to apply a 15% restocking charge.

Service / Repairs

We have a nationwide team of Service Technicians who can carry out all service or repair work to your product within the guarantee period and beyond. You have the assurance of a fully trained Mira Technician, genuine Mira spare parts and a 12 month guarantee on any chargeable work done. Payment should be made directly to the Service Technician who will accept most major Credit or Debit cards.

To Contact Us

UK

Telephone: 0844 571 5000

Mon to Fri 8:00 am - 5:30 pm, Sat 8:30 am - 3:30 pm
E-mail: technical@mirashowers.com
Fax: 01242 282595
By Post: Mira Customer Services Dept, Cromwell Road, Cheltenham, Gloucestershire, GL52 5EP

Eire

Telephone: 01 459 1344

Mon to Fri 9:00 am - 5:00 pm
E-mail: sales@modernplant.ie
Fax: Dublin 01 459 2329
By Post: Modern Plant Ltd (Dublin), Otter House, Naas Road, Clondalkin, Dublin 22

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The company reserves the right to alter product specifications without notice.

FM 14648

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